FACTORS DETERMINING THE CORPORATE CAPITAL STRUCTURE IN THE CZECH REPUBLIC FROM THE PERSPECTIVE OF BUSINESS ENTITIES

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Introduction

The corporate capital structure is construed as the relationship between the debt and equity sources, which companies use to finance their business. Since the early fifties of the last century, the relationship between a company´s debt and equity has been dealt with by various theories of capital structure. However, the validity of various corporate capital structure theories is not universal, and sometimes, a claim of one theory may be in direct conflict with the claims of other capital structure theories. Particular theories differ from each other in two basic levels: firstly, there are different ways of determining the factors that affect the capital structure, and secondly, assessing the optimal capital structure is based on various criteria.

Each business company is unique; its access to sources of funding differs, the business activities are carried out in different economic environment and each company may have different objectives. When selecting sources of financing, a company is influenced in its decision by factors that are determined within the enterprise, such as strategies, goals and mission, the ownership structure, risk attitude, business sector and the position on the given market, the uniqueness of the products offered and the growth potential, firm age, economic results of the company, etc. A company´s selection of sources of financing is also determined by the external environment, which consists of the degree of economic development of the country, the political environment, the level of capital market development, the monetary policy of the country, the level of interest and tax rates, the state support of the entrepreneurship, the legislation in force, the level of competition in the particular sector, the degree of information asymmetry and other factors.

The specific form of corporate capital structure is therefore a complex process dependent on the large number of different determinants and selected financial strategies, and thus depends on the decisions of individual firms. The aim of this paper is to capture the process of selection of particular sources of financing and to identify the most important factors determining the capital structure of companies in the Czech Republic from the perspective of these business entities on the basis of empirical inquiry. To determine the most significant factors, statistical methods and procedures were applied: descriptive statistics, the analysis of responses as ordinal variables, the analysis of responses as cardinal variables, and the factor analysis.

1. Determinants of the Capital Structure

„*There is no universal theory of capital structure, and no reason to expect one.*“ [18] This statement of S.C. Myers suggests that research on the corporate capital structure has so far brought no universally valid theory, because the nature of the problem makes it in substance impossible.

This, however, does not mean that no research into this area has been made. There are many different theories of capital structure, but these are conditional theories, applicable only under certain conditions. In general, theories of capital structure can be divided into static and dynamic ones. The basic static theories of corporate capital structure include the theory of optimal capital structure, based on Miller and Modigliani´s theory of the impact of taxes and costs of financial distress, and trade-off theory of capital structure. The most widespread and most respected theory of corporate capital structure is considered to be the theory of optimal capital structure, which is

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based on the assumption that the use of debt in corporate financing leads to the reduction of average cost of total capital; but it happens only up to a certain level of debt: when exceeded, the average cost of capital starts rising again. Trade-off theory involves investigation into the costs of financial distress that can eliminate the positive effects of the tax shield.

Dynamic theories, unlike the static ones, do not seek an optimal capital structure, but provide a certain preferential hierarchy of financial resources of a company. According to the pecking order theory, firms use internal equity (profit) first for financing of their activities, then debt sources and, as a last resort external equity (share issues).

Most of the still valid theories of capital structure were formed in the Anglo-Saxon world, and therefore the conclusions of these theories cannot be unreservedly applied in the Czech environment. Czech expert literature on the corporate capital structure thus usually takes over the conclusions of foreign publications.

1.1 Theoretical Background

Krauseová [15] analyzed the capital structure of Czech companies in dependence on the external environment, relating mainly to the historical development since 1989 and the European recession period. In her empirical study she also analyzed the effects of property turnover, profitability, growth, size, and profit volatility on the debt levels according to particular business sectors. She emphasizes conservative attitude of companies' towards debt and predominant accumulation of equity. She also points at low use of bonds as a source of financing. She expects that within the corporate capital structure there will be an increase in the proportion of debt sources.

One of the first experts in the Czech environment who addressed the topic of corporate finance and capital structure were the Neumaiers [19]. The Neumaiers´ theory confirms the compromise theory and in special cases is based on F. Modigliani and K.H. Miller´s theory.

Synek [24] states that the total size of the corporate capital depends on many factors; and he emphasizes the following ones: a company size, degree of mechanization, automation and robotics, the rate of capital turnover and sales organization.

Kislingerová [13] sees as the most important factors affecting corporate decisions about the level of debt the following: the size and stability of business profits, business position on the market (so-called "operating leverage"), stability or volatility of revenues, capital structure of the company (portfolio of assets), financial independence of the company (financial freedom), and the stability of the distribution of profit.

Landa and Martinovičová [16] provided the analysis of the current state and changes in capital structure depending on the industrial sectors in the years 2007 to 2009, with regard to the economic crisis. In the monitored sectors they confirmed the correctness of the generally presented findings concerning the predominance of the cost of equity over the cost of debt. They also confirmed assumption of greater use of bank loans by economically underperforming businesses (and vice versa).

Hrdý [10] states that determinants represent the cause producing results in the form of the theory of optimization of the capital structure, whereby the particular capital structure theories are always based on various determinants. The author also points to corporate financial managers´ insufficient knowledge of theoretical approaches to the corporate capital structure optimization and the related incomprehension of the zero debt as a sign of prosperity and a good name, and failing to take advantage of the tax shield effect.

Bauer [4] examines the correlation of indebtedness on the company size, industry, profitability, liquidity of assets, growth opportunities, tax rates, tax shield and volatility in his study. He states that the determinants of capital structure of Czech business companies listed on the stock exchange correspond with the companies from the group of countries G7. In accordance with generally accepted theoretical assumptions he found for example a negative correlation of corporate indebtedness with profitability and non-debt tax shield, and a positive correlation of indebtedness of Czech companies and the company size.

Prášilová [22] has investigated whether certain determinants, namely the proportion of fixed assets, retained earnings, interest rate, return on assets, firm size, the share of tangible assets and firm age have an impact on the corporate capital structure, and observed the degree of this influence. The result of the analysis is finding that the total corporate indebtedness is positively correlated with the

firm age and the amount of retained earnings; the negative correlation is represented by return on assets and company size. Her conclusions are in accordance with the results of recent surveys, which recognize the partial effects of both main theoretical approaches, the trade-off theory and the pecking order theory, on the financial decision-making of companies.

Foreign, Anglo-Saxon literature, for example Baker [3] identifies the following factors affecting the corporate capital structure: liquidity of assets, company size, growth opportunities, profitability, volatility, business sector, the impact of taxes, credit rating, the situation on the debt market, the situation in the capital market and the macroeconomic conditions.

1.2 The Impact of Industrial Sector

Firms operating in the same industrial sector tend to have similar external conditions for their business activities. Therefore, it is also possible to find a correlation between the business sector and the capital structure of companies – as shown, for example, by Bradley, Jarrell and Kim [6].

At the same time, the average indebtedness may be a factor that influences the indebtedness of a particular company: Chevalier [11] found that individual companies compare their own debt ratios with industry averages and directly (by setting a target debt levels) or indirectly adjust their own financial policy to these averages.

Talberg et al. [25] dealt with the debt within a particular industrial sector and discovered the differences within individual industries. These inter-sectoral differences in capital structure he explains by the different level of risk within industries. In accordance with the theory of financial distress, the company with higher risk levels should get less indebted.

According to various studies, the industrial sector factor may be represented by other variables as well, such as by the stage of technology development, regulation, or type of assets in the sector. For example, Almazan and Molina [1] argue that differences in technology lead to different capital structures.

1.3 Tax Factors

In the classical tax system higher corporate debt and hence higher interest paid result in reducing the tax burden on a company, although the empirical evidence for this statement is not easy to find, since higher taxes are correlated with higher productivity.

Graham [8] indicates that companies with higher marginal tax rate get into debt more often, which is consistent with the trade-off theory of capital structure. In contrast, Bradley, Jarrell and Kim [6] found a positive correlation between non-debt tax shield and the debt, which is in conflict with the primary assumptions of the debt tax shield. As a possible explanation of this phenomenon they indicate that non-debt tax shield can be simply a representative of tangible assets.

Bessler, Drobetz and Kazemieh [5] have reported that tax effects on corporate debt can be measured by various variables, which include the highest statutory tax rate, the ratio of net operating losses and assets, depreciation expense ratio and the ratio of tax-deductible loans to assets.

1.4 Company Size

The effect of company size on indebtedness is ambiguous. On the one hand, Titman and Wessels [26] argue that large firms tend to be more diversified and that's why they fail less often. The costs of financial distress are also usually larger in small companies. In other words, in accordance with the trade-off theory there is a positive correlation between a company size and the probability of its bankruptcy, so there is a positive correlation between the company size and indebtedness.

On the other hand, the size of a company may be representative for information asymmetry between corporate and capital markets professionals. Pecking order theory in this context assumes a negative relationship between indebtedness and a company size, because large companies have a higher capacity to equity financing.

Company size is usually measured by the volume of property via sales or the number of employees.

1.5 Business Profitability

The profitability of a company is measured by various indicators, primarily by means of return on assets (ROA) or return on equity (ROE), possibly with return on investment (ROI) [14].

High return on equity is a result of low indebtedness. [7] This argument is economically grounded in the pecking order theory hypothesis, where firms prefer financing

through retained earnings to debt financing. Although profitable companies could increase their indebtedness in order to take advantage of the tax shield, empirical studies usually do not confirm this. Negative impact of indebtedness on the business profitability is a major argument against the validity of the trade-off theory.

1.6 Growth Opportunities

Trade-off theory assumes that firms with higher investment opportunities are less indebted, because they avoid the tendency to under-investment and replacement of external equity capital for reasons other than the interests of the owners (shareholders) and creditors of the company. [5] This statement is supported by M.C. Jensen´s theory of free cash-flow [12].

In contrast, the conclusions of the pecking order theory are not entirely clear in terms of the growth opportunities. Simplified, it is possible to state that this theory assumes a positive correlation between indebtedness and the growth opportunities of companies. The indebtedness grows if investment exceeds the level of retained earnings, and falls when investment is lower. Assuming a fixed profitability there can be expected higher indebtedness of firms with higher investment opportunities. However, if the theory takes into account current and future financial costs, the conclusions of this theory are opposite (firms with higher investment opportunities are less indebted) [5].

1.7 Conditions on the Financial and Capital Markets

Antoniou [2] reports significant differences in the formation of the capital structure between capital market-oriented countries and countries oriented on the debt financing through banks. These factors include differences in legislative terms of particular countries, financial structure, accounting and tax systems, business management etc.

On the capital market, the market value of a company is determined by the share price; the rate of return required by investors in individual securities quantifies the risk associated with business activities. What is more, the stock market may be regarded as a reliable indicator of economic development [20]. Allocation function lies in the moving funds from surplus entities to deficit entities through various money market instruments, which also leads to the redistribution of risk between economic entities. Other features include the provision of financial markets liquidity and reducing transaction costs [21].

Unless at least one of the two basic functions on the capital market is met, the markets will probably have some deficiency, such as distrust of investors or issuers of securities, or a lack of market liquidity. Other reasons for malfunctions or inefficiencies of the capital market in economy may be a limited size of the economy or a historically very strong position of the banking sector. Great Britain and the United States are countries historically oriented on the capital market; countries with economies oriented on the banking sector include continental European countries (France, Germany, etc.) and Japan. The Czech Republic traditionally belongs to the group of economies dependent on the banking sector.

Trade-off theory indicates a positive correlation between the level of expected inflation and the level of corporate indebtedness of firms that take expected inflation into account for correct timing of debt [5].

Henderson, Jegadeesh, and Weisbach [9] have documented that firms fall into debt more often if interest rates are low. They have also monitored interest rates abroad, and if external interest rates are lower, they incur debts abroad.

2. Methodology

For processing of this study, the method of analysis of expert domestic and foreign publications and scientific papers was used first. On its basis theoretical background was elaborated by the means of synthesis of the obtained knowledge. The study also includes results of the empirical investigation that was conducted in several phases.

The first phase involved determination of the population and the representative sample. All economically active companies in the Czech Republic served as the population of investigation. The database of companies and institutions Creditinfo Albertina GOLD, which contains an overview of all registered business entities in the Czech Republic, including the basic economic results of the companies listed in the Business Journal, was used as the source of data on the subjects. The population was represented by all business companies; sampling was conducted in 14 industry sectors according to CZ-NACE, while within each sector

100 companies were randomly selected (using a random number generator). The sample therefore consisted of 1,400 companies.

The next phase included the formation of an electronic questionnaire, which was sent out via e-mail to financial and economic departments or management of 1,400 companies. The number of returned questionnaires was only 48; however, it can be regarded as a set of a great magnitude. The questionnaire included questions aimed to determine the actual factors that have an impact on what kind of sources of financing are used by companies. In the other words, to find out whether the final company's capital structure was the result of the company´s own decision or other internal factors, or rather the result of external factors that the company itself was not able to influence. Unlike a number of economic studies conducted in the sphere of the corporate capital structure, which rely on ex-post publicly available economic data, this survey was focused rather on the factors that ex-ante affect the final capital structure.

Evaluation of the data was done by the means of descriptive statistics methods. Ordinal variables are variables that can in a given interval take a finite number of values, and can be sorted according to the qualitative point of view. Cardinal numeric variables are variables whose values are important numbers that can be sorted in increasing or decreasing scales, and can theoretically take any value from the interval variable definition. It is not always possible to decide clearly whether it is a cardinal or ordinal variable, therefore both analyzes were performed. The entire work is carried out with the level of significance of $\alpha = 0.05$.

To determine the most outstanding internal and external determinants of the capital structure, the factor analysis method was used. This is a statistical method of grouping of data, that are highly correlated, and a consecutive reduction of the number of original variables to a smaller number of factors [17]. Owing to the method name "factor" analysis, which aims to determine the resulting "factors", in this study the term "determinants of capital structure" is further used for the "factors that affect the capital structure of the company", since it is a "variable" entering the factor analysis. Factor analysis of external determinants originally included nine variables (determinants); the internal determinant analysis included 11 variables. The term "factor" is the output from the factor analysis, which is formed by reduction and summarization of "variables" – determinants. Based on the factor analysis of internal and external determinants three external and three internal factors were determined, while each factor is made up of multiple variables listed in the questionnaire. R software was used for the processing of the factor analysis [23].

Tab. 1: Distribution of respondents according to the legal form of business

Legal form of business	Number of respondents	Percentage
Joint-stock company	8	16.7%
Limited liability company	39	81.3%
Other (state enterprise)	1	2.1%
Total	48	100.0%

Source: own

3. Research Results

The questionnaire survey was focused on the internal and external determinants of the corporate capital structure. The respondents also answered questions concerning the legal forms of business, prevailing business sector and the company size.

3.1 Evaluation of the Questionnaire Survey – Descriptive Statistics

Table 1 summarizes the distribution of respondents according to the legal form of business.

Tab. 2: Distribution of respondents according to the prevailing business sector

Prevailing business sector	Number of respondents	Percentage
F – Construction	9	18.8%
D – Electricity, gas, steam and air conditioning	8	16.7%
G – Wholesale and retail trade; repair of motor vehicles and motorcycles	6	12.5%
A – Agriculture, fishery, and forestry	5	10.4%
B – Mining and quarrying	5	10.4%
C – Manufacturing	5	10.4%
N – Administrative and support service activities	3	6.3%
E – Water supply; sewerage, waste management and remediation activities	2	4.2%
H – Transportation and storage	1	2.1%
I – Accommodation and food service activities	1	2.1%
J – Information and communication	1	2.1%
L – Real estate activities	1	2.1%
M – Administrative and support service activities	1	2.1%
Total	48	100.0%

Source: own

Tab. 3: Distribution of respondents according to company size (measured by the number of employees)

Number of employees (company size)	Number of respondents	Percentage
0–9 employees (micro-sized enterprise)	12	25.0%
10–49 employees (small-sized enterprise)	21	43.8%
50–249 employees (medium-sized enterprise)	10	20.8%
250 and more employees (large-sized enterprise)	5	10.4%
Total	48	100.0%

Source: own

The legal form of a limited liability company was represented statistically with the most significant frequency. It can also be stated that the legal form of the "other" occurred minimally (once) and it was in the case of the state enterprise.

Table 2 summarizes the distribution of the respondents according to the prevailing business sector of an enterprise.

Respondents with a predominant business activity F are represented statistically more significantly than respondents with a predominant activity E, H, I, J, L and M ($p\text{-value}_{max} \leq 0.0348$). Respondents with a predominant business activity D are represented statistically more significantly than respondents with a predominant activity H, I, J, L and M (p-value max≤0.0196). There was not identified statistically significant difference in the frequency of other business sectors ($p\text{-value}_{min} \leq 0.0578$).

Table 3 presents the distribution of respondents by size (measured by the number of employees).

3.2 The Evaluation of External Determinants of Capital Structure

The respondents had a choice of nine external determinants of the capital structure of their company, while the evaluation scale from 1 to 5 has been used (note: 1 = most important, 5 = no effect).

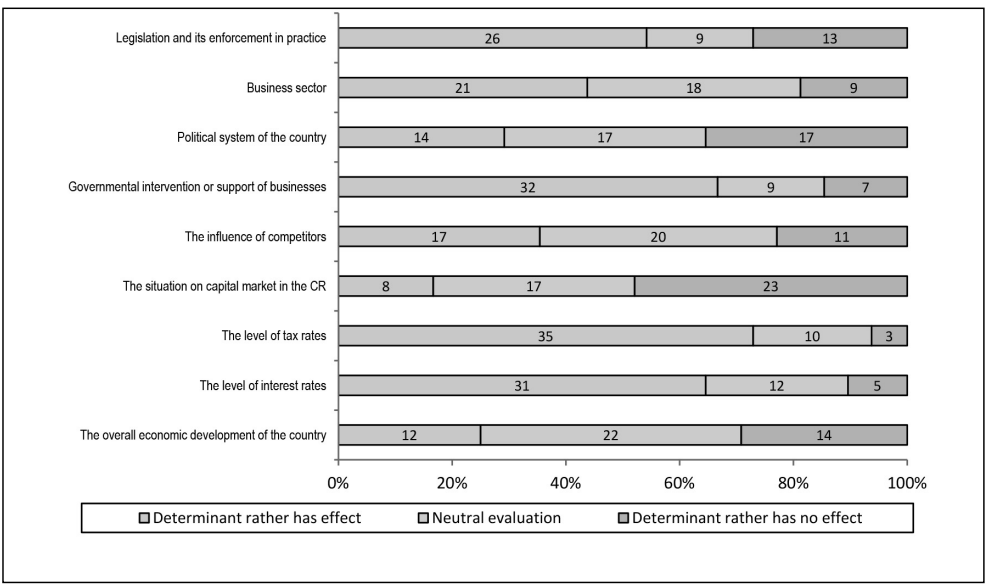
3.2.1 Analysis of Responses as Ordinal Variables

As already mentioned, the ordinal variables are variables that can – in a given interval – take finite number of values, and they can be sorted from a qualitative point of view.

Given the small number of data and fragmentation of responses, the aggregation of responses is performed as follows: ratings 1 and 2 are aggregated into: "the determinant rather has effect", rating 3: "neutral evaluation", and ratings 4 and 5: "the determinant rather has no effect" – see Figure 1.

After aggregation of responses it can be stated that the determinants "legislation and its enforcement in practice", "government intervention or support of businesses", "the

Fig. 1: The importance of external determinants: the structure of responses (after aggregation of responses)



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level of tax rates in the Czech Republic" and "the level of interest rates in the Czech Republic" have been identified as rather important by the respondents. For these variables, the answer „the determinant rather has effect" occurs significantly more frequently than the other two ($p\text{-value}_{max} \leq 0.037$). If we compared only the answers that lean toward any extreme view (we did not take into account the answers "neutral evaluation"), the determinant of "business sector" would be added to the group of variables with effect.

Determinant "the situation on the capital market in the Czech Republic" has the highest quotient of answers "determinant rather has no effect." This is represented statistically more significantly than the answer "determinant rather has effect" (p-value≤0.007).

3.2.2 Analysis of Responses as Cardinal Variables

It is not always possible to conclusively determine whether a variable is of ordinal or cardinal character, therefore an analysis of the responses as cardinal variables was carried out as well.

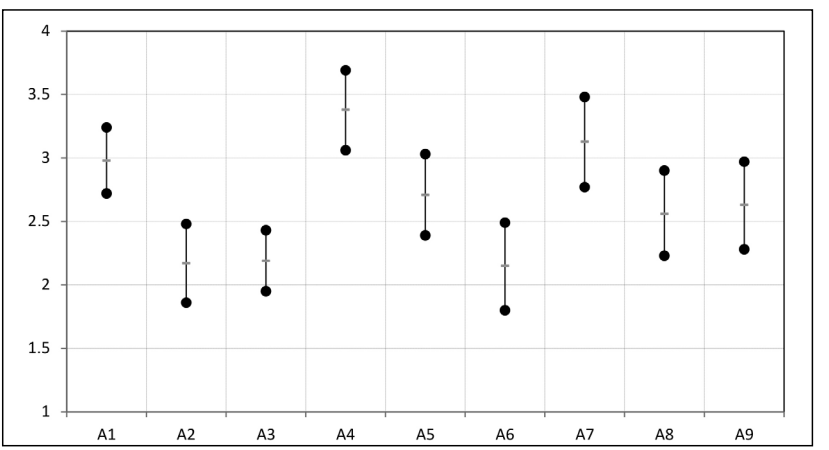
Cardinal variables are variables whose values are classified as numbers; it is possible to sort them in increasing or decreasing series and they can theoretically take any value from the definition interval of the variable. The basic descriptive statistics is performed first within the analysis to calculate the basic parameters of location and dispersion (Tab. 4 and Fig. 2).

Tab. 4: The importance of external determinants: the analysis of responses as cardinal variables

External determinants	$\bar{x}$	$\bar{x} - t\frac{s}{\sqrt{n}}$	$\bar{x} + t\frac{s}{\sqrt{n}}$	Median	Standard deviation
A1: the overall economic development of the country	2.98	2.72	3.24	3	0.934
A2: the level of interest rates in the CR	2.17	1.86	2.48	2	1.098
A3: the level of tax rates in the CR	2.19	1.95	2.43	2	0.842
A4: the situation on the capital market in the CR	3.38	3.06	3.69	3	1.104
A5: the influence of competitors	2.71	2.39	3.03	3	1.129
A6: government intervention or support of businesses	2.15	1.80	2.49	2	1.220
A7: political system of the country	3.13	2.77	3.48	3	1.265
A8: business sector	2.56	2.23	2.90	3	1.183
A9: legislation and its enforcement in practice	2.63	2.28	2.97	2	1.231

Source: own

Fig. 2: The importance of external determinants: graphical evaluation of responses as cardinal variables



Source: own

A statistically significant difference in the mean values of individual variables can be identified with "A2: the level of interest rates in the Czech Republic", "A3: the level of tax rates in the Czech Republic" and "A6: government intervention or support of businesses" (rather significant influence) on the one hand and "A1: the overall economic development of the country", "A4: the situation on the capital market in the Czech Republic" and "A7: the political system of the country" (rather insignificant impact) on the other hand (95% confidence intervals for the mean values do not overlap). The difference in mean values of evaluation in other cases cannot be considered statistically significant (95% confidence intervals for the mean values overlap).

3.2.3 Factor Analysis Assessing the Impact of External Determinants

Factor analysis was performed in the three steps (Tab. 5), within which variables and determinants were reduced. Attributes with a correlation coefficient of less than ± 0.5 were discarded. The aim was to reduce the variables and the extracted factors to a so-called optimal level, i.e. to the number of factors that had the greatest influence on the resulting capital structure.

Tab. 5: The importance of external determinants: the factor analysis of the impact of external determinants

		Step 1	Step 2	Step 3
Cronbach's alpha		0.826	0.820	0.749
95% confidence interval		(0.754;0.899)	(0.744;0.896)	(0.637;0.860)
Kaiser-Meyer-Olkin measure		0.722	0.737	0.613
Bartlett's test of sphericity	Chi-square	163.48	162.7	115.5
	Degrees of freedom	36	28	15
	The significance level	0.0	0.0	0.0
The number of variables entering the factor analysis		9	8	6
The number of factors		5	4	3
The number of variables in the factors		8	6	6
Cumulative percentage of variability		0.746	0.698	0.712

Source: own

Cronbach's alpha is met in all the steps by exceeding the value of 0.7. The confidence interval represents the interval in which the random variable falls within a pre-selected probability 1-α. The condition to attain the Kaiser-Meyer-Olkinova rate, i.e. value higher than 0.6, is valid in all steps. Bartlett's test of sphericity was met in all steps.

In step 2 the variable "government intervention or support of businesses" was released, since it has statistically significant ties in the factor where are no other variables.

Tab. 6: The importance of external determinants: results of factor analysis – the identification of the important factors

	F1	F2	F3
A1: overall economic development of the country	0.686	0.151	0.367
A2: the level of interest rates in the CR	-0.004	-0.17	0.653
A3: the level of tax rates in the CR	0.427	0.094	0.762
A4: the situation on the capital market in the CR	0.284	0.545	0.275
A5: the influence of competitors	0.196	0.970	-0.123
A7: political system of the country	0.867	0.490	-0.0051

Source: own

Tab. 7: **The importance of external determinants: results of factor analysis – variability of the factors**

	F1	F2	F3
Characteristic value	1.524	1.51	1.236
Percentage of variability	0.254	0.252	0.206
Cumulative percentage of variability	0.254	0.506	0.712

Source: own

In step 3 the variable "business sector" was released, since it has statistically significant ties in the factor where are no other variables. Variable "legislation and its enforcement in practice" was released as well, because it has no statistically significant ties in any factor.

Further reduction in the next step would not be beneficial; so no more variables were released and the three factors were identified.

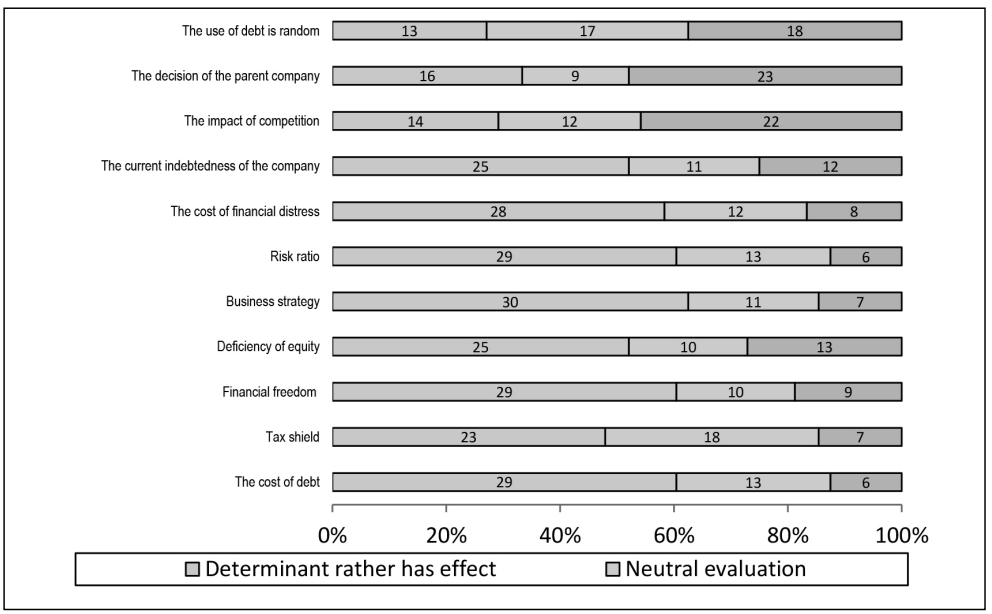
By means of the factor analysis of external determinants of capital structure the three factors were derived (Tab. 6). Each of these factors is composed by two variables (indicated by colouring).

Factor 1 includes "*overall economic development of the country*" and "*political system of the country*". Thus it was in common entitled as **the economic and political development of the country**.

Factor 2 consists of "*the situation on the capital market in the Czech Republic*" and "*the influence of competitors* ", together called **the market environment of the country**.

Factor 3 is given by the variables "*the level of interest rates in the Czech Republic*" and "*the level of tax rates in the Czech Republic*", together entitled as **the level of tax and interest rates**.

Fig. 3: **The importance of internal determinants: the structure of responses (after aggregation of responses)**



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As shown in Table 7, the cumulative variability is 71.2%, of which factor 1 "the economic and political development of the country" represents 25.4%, factor 2 "the market environment of the country" represents 25.2% and factor 3 "the level of tax and interest rates" represents 20.6%. It is therefore evident, that the factors "the industrial and economic development of the country" and "the market environment of the country" are seen by respondents as the most important external determinants of the capital structure of their companies. The most important determinants thus include the legislative conditions, law enforcement, administration, but also factors such as the overall development of the national economy, a stage of economic cycle, or preferences of the governing political parties. Respondents anticipate quite considerable influence also to determinant "the level of tax and interest rates", which is entirely logical in relation to obtaining debt financial sources and using the effect of tax shield.

3.3 The Evaluation of Internal Determinants of Capital Structure

In context of questioning related to the internal determinants, the respondents had a choice of 11 variant variables, while the evaluation scale from 1 to 5 has been used (note: 1 = most important, 5 = no effect).

3.3.1 Analysis of Responses as Ordinal Variables

Due to the low number of data and fragmentation of answers, the same assessment as the aggregation of external determinants was made to evaluate responses concerning internal determinants as ordinal variables.

On the basis of evaluation of aggregated responses (Fig. 3) it can be stated that the influence of internal determinants is perceived by the respondents as more important. This can be deduced from the fact that seven determinants are represented statistically the most significantly with the highest number of evaluations "determinant rather has effect." This concerns determinants: "current indebtedness of the company", "the cost of financial distress", "risk ratio", "business strategy", "deficiency of equity", "financial freedom", and "the cost of debt" ($p\text{-value}_{max} \leq 0.0196$).

Tab. 8: The importance of internal determinants: analysis of the responses as cardinal variables

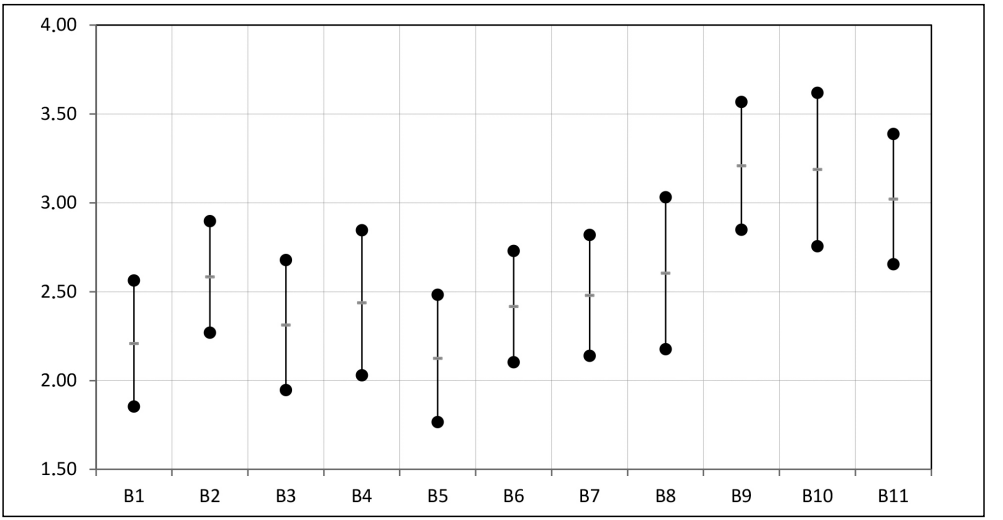
Internal determinants	$\bar{x}$	$\bar{x} - t\frac{s}{\sqrt{n}}$	$\bar{x} + t\frac{s}{\sqrt{n}}$	Median	Standard Deviation
B1: the costs of debt	2.21	1.85	2.56	2	1.254
B2: tax shield	2.58	2.27	2.90	3	1.108
B3: financial freedom	2.31	1.95	2.68	2	1.291
B4: deficiency of equity	2.44	2.03	2.85	2	1.443
B5: business strategy	2.13	1.77	2.48	2	1.265
B6: risk ratio	2.42	2.10	2.73	2	1.108
B7: the cost of financial distress	2.48	2.14	2.82	2	1.203
B8: the current indebtedness of the company	2.60	2.18	3.03	2	1.512
B9: the impact of competition	3.21	2.85	3.57	3	1.271
B10: the decision of the parent company	3.19	2.76	3.62	3	1.525
B11: use of debt is random	3.02	2.65	3.39	3	1.296

Source: own

3.3.2 Analysis of Responses as Cardinal Variables

Table 8 and the chart in Figure 4 below summarize the evaluation of responses to questions concerning internal determinants as cardinal variables.

Fig. 4: **The importance of internal determinants: graphical evaluation of responses as cardinal variables**



Source: own

The analysis revealed a statistically significant difference in the mean values of determinants "B9: the impact of competition" and "B10: the decision of the parent company" (rather small effect) and factors "B1: the cost of debt", "B3: financial freedom", "B5: business strategy" and "B6: risk ratio" (rather large effect). Further differences were revealed in the mean values of determinants: "B11: the use of debt is random, according to the actual needs of the company" (rather small effect), "B1: the cost of debt" and "B5: business strategy" (rather large effect).

The difference in the evaluation of mean values of other occurrences cannot be considered as statistically significant (95% confidence intervals for the mean values overlap).

Tab. 9: **The importance of internal determinants: the factor analysis of the impact of internal determinants**

		Step 1	Step 2	Step 2a
Cronbach's alpha		0.782	0.802	0.802
95% confidence interval		(0.694;0.870)	(0.716;0.889)	(0.716;0.889)
Kaiser-Meyer-Olkin measure		0.679	0.683	0.683
Bartlett's test of sphericity	Chi-square	256.4	192.4	192.4
	Degrees of freedom	60	36	36
	The significance level	0.0	0.0	0,0
The number of variables entering the factor analysis		11	9	9
The number of factors		5	4	3
The number of variables in the factors		9	9	9
Cumulative percentage of variability		0.747	0.699	0.651

Source: own

3.3.3 Factor Analysis Assessing the Impact of Internal Determinants

Factor analysis of internal determinants of capital structure was performed in two steps (Tab. 9) with the aim to reduce number of variables and number of extracted factors to optimal levels. After the step 2, there was further reduction in the number of factors from 4 to 3, since the factor F4 explains only 9% of the variance.

Cronbach's alpha is met in all steps (exceeds the value of 0.7). The confidence interval represents the interval in which the random variable falls within a pre-selected probability 1-α. The condition to achieve the Kaiser-Meyer-Olkin rate, i.e. value higher than 0.6, is valid in all steps. Bartlett's test of sphericity was met in all steps.

In step 2, the variables „use of debt is random, depends on the current needs of the company" and "financial freedom" were released, since they have statistically significant ties in factors where are no other variables.

In step 2a, the reduction of the numbers of factors was performed to F1, F2 and F3. Factor F4 explains only 9% of the variance (the number of variables remained the same, and therefore assumptions KMA and Cronbach's alpha as well), while further reduction would not have been beneficial. On the basis of internal determinants analysis, three factors can be identified as the most significant again.

Tab. 10: The importance of internal factors: results of the factor analysis – identification of important factors

	F1	F2	F3
B1: the cost of debt	0.212	0.950	0.096
B2: tax shield	0.049	0.758	0.232
B4: deficiency of equity	0.096	0.144	0.584
B5: business strategy	0.769	0.315	0.129
B6: risk ratio	0.696	0.424	0.256
B7: the cost of financial distress	0.414	0.202	0.588
B8: the current indebtedness of the company	-0.036	0.085	0.993
B9: the impact of competition	0.771	-0.060	-0.023
B10: the decision of the parent company	0.547	0.042	0.087

Source: own

By means of internal determinants factor analysis of capital structure three most significant factors were obtained (Tab. 10). Individual factors are composed of a different number of variables.

Factor 1 includes the determinants "*business strategy*", "*risk ratio*", "*the impact of competition*" and "*the decision of the parent company*", and thus was generally labelled as the **corporate philosophy**.

Factor 2 consists of the "*the cost of debt*" and "*tax shield*", collectively called the **cost of capital**.

Factor 3 is given by the variables "*deficiency of equity*", "*the cost of financial distress*" and "*the current indebtedness of the company*" with the general term **financial health and corporate indebtedness**.

Tab. 11: The importance internal determinants: results of factor analysis – variability of the factors

	F1	F2	F3
Characteristic value	2.200	1.831	1.826
Percentage of variability	0.244	0.203	0.203
Cumulative percentage of variability	0.244	0.448	0.651

Source: own

As shown in Table 11, the cumulative percentage of variability is 65.1%, of which factor 1 "the corporate philosophy" consists of 24.4%, factor 2 "the cost of capital" 20.3% and factor 3 "financial health and corporate indebtedness" 20.3%. The first factor named as "the corporate philosophy" has the largest share within the cumulative variability. All internal determinants included in this factor are closely related to the company decisions and its attitudes to risk, to the management of the company ("the decision of the parent company") and at the same time to the perception of the capital structure of competitive companies. The second factor "the cost of capital" is closely related to external environment, because it emphasizes the dependency of companies' decision-making on the cost of capital (given from the outside) and their attitude to the debt with respect to the financial benefits of tax shield. The third factor "financial health and corporate indebtedness" clearly indicates that companies monitor the debt ratio of their companies, and on the basis of these data they make decisions concerning changes in corporate indebtedness of these companies. This factor rather indicates the need of debt use due to lack of own equity, unlike the second factor, which indicates the use of debt rather for reasons of economic advantages for the business.

Conclusions

The aim of this study was to reveal the background of processes and influences that have the most significant effect on the corporate debt ratio from the perspective of these businesses. A questionnaire survey was therefore focused on issues relating to the capital structure of a company – whether the capital structure of the companies results from their own financial decisions, or it is rather just a consequence of various external or internal factors. Empirical investigation was carried out using electronic questioning; descriptive statistics and factor analysis were used as evaluation methods. Although the number of returned questionnaires was not high, it can be considered sufficient for identification of the most important factors from the perspectives of business entities, and the objective of this survey has been achieved. Considering the structure of the respondents, it is not possible to generalize the validity of the expressed conclusions and apply them to all businesses in the Czech Republic, but rather on small and medium-sized enterprises active in the production and processing sectors with the legal form of limited liability company.

In context of questioning related to external determinants of the corporate capital structure, the respondents had a choice of nine variables, of which as the most significant determinants were identified: "the level of tax rates in the Czech Republic", "the level of interest rates in the Czech Republic", "government intervention or support of businesses", and "legislation and its enforcement in practice". By means of the factor analysis, three so-called factors were formulated as summary variables created by the reduction and summarization of individual variables – selected determinants. The first factor "economic and political development of the country" includes "the overall economic development of the country" and "the political system of the country". The second factor "market environment of the country" is composed of "the situation on the capital market in the Czech Republic" and "the influence of competitors." The third factor "the levels of tax and interest rates" has been formulated on the basis of the variables "level of interest rates in the Czech Republic" and "the level of tax rates in the Czech Republic".

The effect of internal determinants of capital structure was perceived by the respondents as more important. This can be inferred from the fact that seven of the eleven factors are represented statistically the most significantly with highest number of evaluation "determinant rather has effect". Those factors were: "the current indebtedness of the company", "the costs of financial distress", "risk ratio", "business strategy", "deficiency of own equity", "financial freedom" and " the costs of debt". Factor analysis subsequently revealed three aggregate factors. The first factor "the corporate philosophy" includes the determinants of "business strategy", "risk ratio", "the impact of competition" and "the decision of the parent company". The second internal factor called "the cost of capital" is based on the mutual effects of "the costs of debt" and "tax shield". The third factor "financial health and corporate indebtedness" was revealed using the variables "deficiency of equity", "the cost of financial distress", and "the current indebtedness of the company".

The answer to the essential question of this article, whether the final capital structure

of a company is the result of its own decision-making, or rather a result of various external factors, thus tends rather to the predominance of the internal factors.

Based on the results of performed analysis it maybe stated, inter alia, that the survey results are consistent even with the pecking order theory, according to which companies consider internal equity as primary source of financing, and only in case of its deficiency consider using debt. At the same time, the survey results correspond with the trade-off theory of capital structure which is based on the compromise choice between the advantage of debt financing (interest tax shield) and the costs of financial distress (rising cost of capital).

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Abstract

FACTORS DETERMINING THE CORPORATE CAPITAL STRUCTURE IN THE CZECH REPUBLIC FROM THE PERSPECTIVE OF BUSINESS ENTITIES

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The specific corporate capital structure is fundamentally a complex process dependent on a large variety of determinants; and the chosen financial strategy therefore depends on the particular decisions of individual firms. The aim of this contribution is to capture the most important determinants of the corporate capital structure from the perspective of entrepreneurs on the basis of an empirical inquiry. Although the number of respondents was limited, inquiry results still can be considered as relevant to formulate conclusions for small and medium-sized enterprises operating in the manufacturing and processing sectors with the legal form of the limited liability company. To identify the most important factors affecting corporate decisions concerning the sources of financing, the statistical methods and procedures were used for the research evaluation. With the help of factor analysis, the three key external factors, brought in by the entrepreneurs, were derived: the economic and political development of the country, the market environment of the country, and the levels of tax and interest rates. The effect of internal factors determining the corporate capital structure was perceived by respondents as more important. The inquiry revealed that the most important internal factors were supposed to be: the corporate philosophy, the cost of the capital, and the financial health and indebtedness of a business. The answer to the essential question of this article, whether the final capital structure of a company is the result of its own decision-making, or rather a result of various external factors, thus tends rather to the predominance of the internal factors.

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